
EIP Associates

Overview of EIP Associates

Who We Are

We are committed to maintaining the high standards that have contributed to the success of the company since 1968

EIP Associates is a full-service planning and environmental firm with over 29 years experience serving public- and private-sector clients throughout California.

Our offices are located in Sacramento, San Francisco and the Los Angeles area

Our staff is comprised of some of California's leading environmental planners, land use analysts, biologists, and project managers. We pride ourselves on guiding clients through the environmental review process and helping them to find creative, yet practical, solutions to complex environmental issues. We have prepared more than 5,000 environmental documents for cities, counties, governmental agencies, and private sector clients. Our award-winning projects cover the spectrum of possibilities from, for example, small natural resource or planning studies to large-scale multi-issue habitat conservation plans.

Our Capabilities

EIP Associates is a leader in combining environmental, economic, and socio-political concerns in the environmental decision making process

EIP Associates has grown from a company focused primarily on preparing environmental impact assessments to a full-service environmental consulting and planning firm.

Today, EIP's services span three major technical areas: environmental assessment, natural resource management, and urban and regional planning. Our multi-disciplinary technical specialists provide project support throughout multiple development phases. For example, a development project may at first focus on land-use planning services, but later bring in EIP's restoration ecologists to construct wetlands or other habitats to meet CEQA-mandated mitigation or other requirements.

EIP's goal is to provide an integrated team of planners and scientists who are able to respond to the full range of project needs. In working together efficiently, EIP staff deliver comprehensive solutions cost-effectively.

Overview of EIP Associates

Environmental Assessment and Compliance

EIP Associates is an established leader in environmental assessment and compliance documentation. Our highly qualified staff is committed to ensuring that clients are in full compliance with myriad environmental laws and regulations that face regulatory agencies and project sponsors.

Since 1968, we have produced more than 5,000 quality environmental documents

Environmental Impact Reports/Statements. We were one of the first firms to specialize in the California Environmental Quality Act. Over the years, we've prepared thousands of environmental impact reports, statements, and related documentation. EIP is accustomed to preparing documents that fit project needs. We prepare cost-effective program- and project-level analyses, as well as tiered documents for projects and policies.

EIP's mitigation programs utilize state-of-art best management practices to offset environmental impacts

Mitigation Programs. EIP's scientists are skilled in developing and implementing programs to offset environmental impacts, which can be an instrumental component of winning project approval.

Permit Acquisition. EIP successfully secures permits from regulatory agencies, including the U.S. Army Corps of Engineers (404 Permits), the U.S. Fish and Wildlife Service (Section 7 and 10). We also prepare streambed alteration agreements, NPDES discharge permits, RCRA permits, and others.

EIP's public involvement programs have earned top honors from the American Planning Association and the Association of Environmental Professionals

Public Involvement Programs and Facilitation. Addressing local concerns in coordination with state and local entities is an important component of the environmental decision-making process. EIP has skilled facilitators and mediators on staff who develop programs to promote open discussions that help clarify – and resolve – contentious issues.

Overview of EIP Associates

Natural Resource Management

EIP is one of a handful of firms setting the standard nationwide for restoring and protecting natural habitats.

One of EIP's key technical strengths is our team of natural resource scientists and biologists. Our staff includes individuals with decades of field experience studying all types of habitat. In consultation with responsible agencies and project proponents, we develop a work approach that achieves study goals within efficient schedules and budgets.

We routinely develop original project-specific techniques that are superior to widely applied, but not always appropriate, assessment and management techniques.

Habitat Restoration and Mitigation Planning. EIP is a national leader in the field of habitat restoration. Our work includes repairing or completely recreating wetlands, river and stream ecosystems, woodlands, and other natural environments. Our restoration projects are cost-effective, feasible, and permanent.

Mine Reclamation. EIP's scientists have a successful record of restoring old mines by designing and overseeing innovative, cost-effective grading and revegetation programs.

Water and Aquatic Resource Management. EIP's hydrologists and aquatic scientists provide watershed planning and conduct studies to evaluate how projects could impact water quality, fish stocks, and aquatic ecosystems. We are skilled at designing erosion-control measures to reduce pollution at reservoirs, aqueducts, and other water-supply projects.

EIP often advises clients on state and federal Endangered Species Act compliance.

Endangered Species Assessments. California is home to many threatened and endangered species – and more may join the list in coming years. EIP surveys properties for sensitive plants and wildlife and advises clients on state and federal Endangered Species Act compliance.

Erosion Control and Stormwater Plans. EIP prepares Stormwater Pollution Prevention Plans (SWPPP) and assists clients in minimizing erosion through best management practices, including proper grading and vegetation programs.

Overview of EIP Associates

Urban and Regional Planning

Since 1968, our firm has assisted cities and counties in preparing general plans and EIRs as well as representing project sponsors in obtaining necessary federal, state and local land use approvals.

As EIP Associates has grown, we've found that project planning is most effective – and economical – when environmental concerns are integrated with land use, zoning and long-term capital planning programs. Our staff includes certified planners, landscape architects, and public policy analysts who readily assist clients through all phases of urban and regional planning.

General and Specific Plans. EIP staff assist planners in developing municipal and county plans – and in supporting the plans by determining whether elements are likely to cause significant harm to the environment.

Economic Studies. EIP's analysts are trained in the latest economic forecasting techniques and can provide detailed projections of how projects could impact employment, housing, income, and other socioeconomic variables.

Transportation Planning. EIP seeks solutions to traffic congestion, noise, and air pollution by evaluating environmental consequences of mass transit and regional transportation alternatives.

Institutional Development Plans. EIP has substantial experience assisting universities, colleges and government agencies in their plans to expand facilities and develop long-term capital expenditure programs.

Relevant Project Experience

EIP Associates has tremendous experience and expertise in preparing environmental documents for tiered development projects.

EIP brings a highly skilled team of environmental professionals to mining projects with experience throughout California and Nevada. Our experience has helped us to build a strong track record throughout this region for our professional objectivity, comprehensive environmental analysis, scientific accuracy, and effective public involvement programs.

During the last decade, EIP Associates has worked on a continual basis on CEQA/NEPA studies and environmental studies for mines. A consulting firm's familiarity with local issues and concerns and an intimate understanding of relevant regulations and previously prepared documentation enables a project to begin immediately, stay on track, and provide the highest caliber environmental documentation.

We have included relevant mining and CEQA/NEPA project experience for your consideration.

Selected Mining Related Projects

Syar Industries Reclamation Plan EIS/EIR
Sonoma County, California

Faced with the prospect of continued streambed degradation, EIP developed several alternatives to the proposed mining operations and suggested alternative approaches to reclamation of the mined sites.

Working with three co-lead agencies--the California Board of Mining and Geology, the San Francisco District of the Corps, and the City of Healdsburg--EIP prepared a Draft EIS/EIR on the development and reclamation of six proposed instream and riparian terrace aggregate mining sites along a nine-mile reach of the Russian River in Sonoma County. The Final EIS/EIR is currently in progress, and identifies several significant impacts on the river's riparian resources and adjacent aquifers associated with instream and terrace mining operations and proposed reclamation plans. Chief among these involved continued degradation of the elevation of the streambed. Historically, mining operations in the Russian River have removed more aggregate than is naturally replenished from upstream sources.

This has resulted in the lowering or "degradation" of the elevation of the streambed. This degradation has

several environmental consequences for stream morphology, groundwater availability, riparian vegetation, and fisheries.

Several innovative approaches were developed by EIP and presented in the Draft EIR/EIS, including changing the focus of proposed mining and reclamation operation from instream areas to riparian terrace areas.

EIP developed alternatives that provided a range of options to the decision-makers. These alternatives presented means to combine the removal of aggregate from riparian areas with the long-term enhancement of previously disturbed valley riparian habitat, which is currently limited to narrow bands along the river-sides. Historically, the middle reach of the Russian River has been subject to extensive modification resulting from instream mining operations and indirect channelization as a result of the development of adjacent agricultural uses. One option developed by EIP involved the use of mining operations to lower floodplain terrace elevations in order to widen the riparian corridor. This would allow the river to establish a more natural meandering pattern, create more area for the establishment of riparian habitat in areas which are currently farmed, and create a link to other historically mined areas that are currently being reclaimed as wildlife habitat, while still providing Sonoma County with an affordable source of high quality aggregate.

Lake Piombo Mine Reclamation Project
Kaiser Sand and Gravel

EIP's report identified design flaws in the revegetation plan, including an inadequate irrigation system that prevented new plants from taking hold.

EIP assisted Kaiser Sand and Gravel in analyzing a previously unsuccessful riparian revegetation program at the Lake Piombo quarry on the terraces of the Russian River in Sonoma County, and to design a new plan to reclaim 7.5-acres of slopes around this gravel quarry. EIP's report identified design flaws in the revegetation plan, including an inadequate irrigation system that prevented new plants from taking hold.

EIP supervised the planting and irrigation of over 2,500 native riparian plants on the banks of an abandoned quarry.

EIP's new vegetation plan, which is now being implemented, calls for the planting of over 2,500 plants on the banks of an abandoned quarry to develop as riparian forest. The design was based on an ecological study of adjacent riparian areas and lessons learned from the previous vegetation attempts. The plan included

sufficient irrigation and appropriate installation methods.

After producing the reclamation documents and gaining approval from the California Department of Fish and Game and Sonoma County, EIP helped select the plant growers and supervised the planting program. Existing gully erosion was controlled using willow cuttings as check dams based on an innovative EIP design. The slopes have become almost fully vegetated and rapid attainment of the success criteria is anticipated.

Sycamore Ranch Mining and Reclamation Plan
Southern Pacific Milling Company

EIP's inventory was essential in helping SP Milling design an environmentally sensitive project

EIP's director of biological services, Richard Nichols, conducted a biological baseline inventory and endangered species survey, and prepared a biological impact assessment and mitigation plan to facilitate approval of a major new 120-acre sand and gravel mining operation in Ventura County. The inventory was essential in helping SP Milling design an environmentally sensitive project.

Mitigation plans included specifications for replacement of about one acre of riparian habitat and 14 oak trees

The baseline inventory, impact assessment, and mitigation plan were thorough and objective enough to allow the environmental impact report preparers working for Ventura County to adopt the conclusions with a minimum of original biological field work and analysis. The primary biological issues were direct impacts to riparian habitats from a road crossing and the realignment of a small drainage channel known as Hardison Ditch.

Because of the early and thorough attention to avoidance and mitigation of biological impacts, controversy surrounding the mine has been defused.

Mitigation plans included specifications for replacement of about one acre of riparian habitat and 14 oak trees. Potential indirect impacts to nesting hawks in the adjacent Boulder Creek riparian forest were addressed with a raptor nest survey conducted by EIP biologists.

EIP is currently providing comments and responses on biological issues for SP Milling during the controversial permit approval process. Because of the early and thorough attention to avoidance and mitigation of

biological impacts, controversy surrounding the mine has been defused.

Sisquoc Quarry Mining and Reclamation Project
Southern Pacific Milling Company

Richard Nichols developed a mitigation plan that would replace the wetlands habitat so that no net loss of wetlands would occur

EIP's Richard Nichols assisted SP Milling with a range of mining reclamation and permitting activities related to operation of a 100,000-ton-per-year aggregate quarry on the Sisquoc River in Santa Barbara County. To gain approval to operate the mine, SP Milling applied for a Section 404 permit, which required a wetlands determination and a mitigation and monitoring plan.

After selecting seven areas for mitigation, EIP developed an implementation schedule and planting plan

The wetlands study determined that mining discharges would impact several acres of jurisdictional wetlands. Consequently a mitigation plan was developed that would replace the wetlands habitat so that no net loss of wetlands would occur.

The plan's performance criteria included survivability levels for willows, cottonwoods and native cover plants

Following Corps of Engineers guidelines, the mitigation plan established the wetlands area and types of plants and wildlife habitats to be replaced. After selecting seven areas for mitigation, EIP developed an implementation schedule and planting plan. EIP staff also conducted an endangered species assessment of the impacted site.

The mitigation monitoring plan specified performance goals to be attained over a five-year period. Criteria included survivability and cover levels for willows, cottonwoods and understory plants. Monitoring techniques included sampling of vegetation and measurements of plants for survival, density and height. Maintenance activities during the monitoring period were also specified, including weed control, irrigation system inspection and plant replacement as needed over five years.

EIP experts are currently attending public hearings and responded to comments from agencies and the public regarding the permit application.

Relevant Project Experience

Boulder Creek Riparian Mitigation and Monitoring Project

Southern Pacific Milling Company

EIP's work includes performing five year monitoring of tree scrub density using line intercept methods and measurement of tree height and diameter.

EIP assisted SP Milling in preparing and implementing mitigation plans for a sand and gravel cleanout of the Boulder Creek channel in Ventura County. The project involved acquiring a Section 404 Nationwide Permit from the Army Corps of Engineers and a Streambed Alteration Agreement from the California Department of Fish and Game.

EIP prepared annual reports to the California Department of Fish and Game to document successful attainment of mitigation goals.

EIP's services included planning and overseeing the restoration of a 3.5-acre riparian scrub and alluvial scrub habitat along the banks of Boulder Creek, a tributary of the Santa Clara River. After the initial revegetation program was established, EIP helped with maintenance of the habitat and prepared a five-year program to monitor the success of the restored habitat.

Monitoring tasks included measuring tree/shrub density and vegetative cover using line intercept methods and by recording tree height and diameter. EIP is also preparing annual reports to Fish and Game documenting successful attainment of the mitigation goals.

Sand and Gravel Management Plan and EIR

Sonoma County, California

Among the reclamation methods EIP evaluated was diverting the river to let fine materials settle out.

EIP Associates assisted Sonoma County in evaluating its plan for providing sufficient supplies of sand and gravel for the construction industry while minimizing environmental impacts and land-use conflicts. At issue was whether the land should be used for agriculture (mainly vineyards) or mined for the underlying gravel deposits. Also at issue was how to reclaim the pits that were already mined. Among the reclamation methods EIP evaluated was diverting the river to let fine materials settle out.

Relevant Project Experience

EIP examined these land-use and environmental issues as part a program-level environmental impact report. EIP's update of the county's plan included a comprehensive analysis of the supply and demand for aggregate materials in the county, taking into account quarry, instream and terrace aggregate resources as well as processing and marketing requirements and expected mitigation needs.

Surface Mining Reclamation Planning
California Mining and Geology Board

Among the issues EIP examined were the mines' effect on fisheries, plants and wildlife and streambank erosion

EIP assisted the California Mining and Geology Board in reviewing environmental documentation for several mine reclamation plans. In cases where the plans were inadequate or nonexistent, EIP prepared the necessary environmental documents. In addition, EIP prepared a joint EIR/EIS for the operation and reclamation of seven aggregate mining sites along nine miles of the Russian River in Sonoma Co.

Among the issues EIP examined were the mines' effect on fisheries, plants, and wildlife and streambank erosion. Noise, recreational values, aesthetics and other land use issues were also evaluated. Coordination with local, state and federal agencies and public participation during the review process was critical to the success of this project.

Mining Permits, Reclamation Plan and EIR
Kaweah River Rock Mine, Tulare County, California

Issues of concern included the effects of mining excavation on ground and surface water supplies and the effects of dust and noise on nearby residences

EIP Associates prepared mining permits, a reclamation plan and an environmental impact report and for a proposed 775-acre rock mine near the town of Woodlake on the Kaweah River. Permits secured by EIP included a surface mining permit for operating an open-pit aggregate mine and a special use permit for operation of an asphalt and concrete plant at the site.

EIP also prepared a reclamation plan and an environmental impact report for the mine. Issues of concern included the effects of mining excavation on ground and surface water supplies; the effects of dust

and noise on nearby residences; the conversion of farmland; the effect of the project on public health and safety; and the effect of the project on local plants and wildlife. Other issues included potential impacts to soils, land use, traffic, archaeological resources, air quality, and public services and utilities.

Leona Quarry EIR
City of Oakland

Two issues of major concern to the city were the steepness of the slopes and the danger to trespassers

EIP prepared a focused environmental impact report for the City of Oakland addressing the impacts of surface mining operations at the Leona Quarry, the last operating quarry in Oakland. EIP's work examined whether future mining activities and closure of the site would jeopardize public safety. Two issues of major concern to the city were the steepness of the slopes and the danger to trespassers.

The report addressed environmental effects by evaluating their severity and probability of occurrence, focusing on concerns identified in the city's initial study.

Cache Creek Technical Studies
Yolo County, California

Yolo County is currently in the process of developing a Resources Management Plan for the lower Cache Creek to manage the many resources provided by the creek for the good of the public.

Lower Cache Creek in Yolo County, California has historically been an area of multiple values and competing interests. These interests center on aggregate resources, agriculture, and native habitat. In preparation for this plan, the County contracted EIP to oversee the preparation of three technical studies.

EIP prepared a Riparian Habitat Technical Study for lower Cache Creek. Two other technical studies will be prepared: a Streamway Morphology Study (performed by Northwest Hydraulic Corporation) and a Groundwater Hydrology Study (performed by David Keith Todd Consulting Engineers). EIP was the prime consultant for coordinating and consolidating the three studies.

Relevant Project Experience

Working together, those who prepare the studies will define the relationships between stream morphology and groundwater conditions and habitat along Cache Creek, describe changes to the creek over time, plus the reasons for those changes and make recommendations for future management, protection and enhancement of the creek's resources.

These studies will provide a strong factual base for preparation of the Resources Management Plan and will include the following: a comprehensive evaluation of all existing relevant data on Cache Creek resources; a thorough review of historic conditions on and adjacent to the creek; a credible evaluation of changes in the nature of the creek and its resources over time, as well as a defensible determination as to why those changes occurred; and finally, an effective presentation of information and conclusions provided in previous studies.

Petaluma River Habitat Restoration
City of Petaluma

EIP chose a natural biotechnical approach to control streambank erosion.

EIP's San Francisco office Director of Biological Services, Richard Nichols, designed and implemented a major habitat restoration project for the Petaluma River. The project restored native plant and wildlife habitat to 1,000-foot stretch of the river and stopped severe erosion that threatened a bridge crossing and nearby shopping center.

Since it did not require a 404 permit, the biotechnical approach was installed quickly and cost effectively and created a natural looking habitat.

Mr. Nichols' approach to erosion control employed natural biotechnical systems, including installation of willow wattling, coconut fibre rolls and mattresses and intensive planting of native species to stabilize the bank and prevent further erosion. Since it did not require a 404 permit, the biotechnical system was installed quickly and cost-effectively and created a natural-looking habitat.

Even after two major floods, the restoration remained intact, as native plants reintroduced along the river thrived.

The biotechnical bank stabilization began with careful grading of the top bank to create a more gradual slop for improved stability and a larger planting area. Coconut fiber rolls were installed and anchored to the lower bank while the upper bank was protected by rows of wattling trenched and wedged with wood stakes. Areas in between were covered by coconut fiber "mattresses." Native seedlings were planted into this covering, which anchored the roots and prevented erosion until the plantings took hold.

Relevant Project Experience

The restoration was successful both in regenerating a natural riparian habitat and in stabilizing the Petaluma River bank. Even after two major floods, the biotechnical systems remained intact, while the native plants reintroduced along the river thrived.

Mitigation Monitoring for the Petaluma River Habitat Restoration Project
City of Petaluma

Mitigation performance criteria included vegetative cover and density, slope stability and inundation frequency and duration.

EIP staff collected and analyzed data to determine progress towards successful attainment of performance criteria for a major biological mitigation project along the Petaluma River in Sonoma County.

The mitigation plan, prepared by EIP's San Francisco office Director of Biological Services, Richard Nichols, proposed creation of five acres of riparian forest and two acres of seasonal wetlands as mitigation for development of a major factory outlet shopping center.

Considerable progress towards attainment of the fifth year performance criteria was documented by the first year, based on analysis of vegetative cover and density, slope stability and inundation frequency and duration.

Guadalupe Valley Quarry Environmental Review
City of Brisbane, California

Of special concern to the city was the dust generated by the quarry and noise from delivery trucks passing near downtown and residential neighborhoods.

For the City of Brisbane EIP Associates reviewed and commented on the adequacy of a Supplemental EIR for an asphalt batching plant proposed for construction at the quarry. Key issues analyzed by EIP included the potential for traffic congestion and noise, and impacts to air, water and visual quality. Of special concern to the city was the dust generated by the quarry and noise from delivery trucks passing near downtown and residential neighborhoods.

As part of the review, EIP recommended mitigation measures that included covered conveyors and baffled sediment traps to reduce air- and water-borne dust and silt.

Relevant Project Experience

Golden Eagle Nest Survey in Elko and Eureka Counties, Nevada
Newmont Gold Company

The Bureau of Land Management has since circulated EIP's study to other project owners as a model report.

To facilitate mine expansion in accordance with the Bald Eagle Protection Act, Newmont applied to the U.S. Fish and Wildlife Service for a permit to remove a golden eagle nest during the inactive season. As part of the permit application, EIP conducted an area-wide nesting studies that included a 20-mile wide helicopter mapping survey and visits to each nest to determine if it had been used during the previous nesting season. Since the survey indicated that no net impact would result from removing the target nest, the Fish and Wildlife Service issued the nest-removal permit without mitigation requirements. The Bureau of Land Management has since circulated EIP's study to other project owners as a model report.

Relevant Project Experience

Summary of CEQA and NEPA Documents Completed by Firm

Cullinan Ranch Final EIR/EIS Services

City of Vallejo and the U.S. Army Corps of Engineers

Issues of concern centered around loss of wetlands, growth inducement, water quality impacts, sedimentation and bay mud soil settlement, dredge disposal, traffic impacts, plants and wildlife, public services and infrastructure financing. EIP's Final EIR/EIS responded to all expressed concerns and provided additional new analysis as required

Cullinan Ranch is a 1,493-acre parcel of diked historic wetlands along the northern edge of San Pablo Bay, near the City of Vallejo. The City and the U.S. Army Corps of Engineers have received an application to develop this site, now used for dry farming, into a water-oriented residential community.

Because Cullinan Ranch is one of the larger remaining historic wetlands open space parcels in the San Francisco Bay area, a great deal of public controversy has been associated with the project. A consultant was retained to prepare an EIR/EIS on several proposed development alternatives, and the responsible agencies received hundreds of comments on the Draft document. EIP was subsequently hired by the City of Vallejo to prepare responses to these comments and to complete the Final EIR/EIS.

The proposed development alternatives call for channels and marinas, residential, commercial, public facilities and recreational land uses and open space areas in varying densities. Housing would primarily serve middle- and upper-income households.

Comments on the Draft EIR/EIS were received from local, regional, state and federal agencies and from community members and public interest groups.

Relevant Project Experience

San Clemente Dam Water Supply Project EIR/EIS
Monterey Peninsula Water Management District

A key element in the environmental studies was the modeling and analysis of different groundwater pumping scenarios in combination with different reservoir releases in order to provide sufficient flow to sustain the steelhead population.

The Monterey Peninsula Water Management District (MPWMD) selected EIP to prepare environmental studies for a large-scale water supply project proposed by the District to meet future water demand and lessen the adverse effects of water management practices on the Carmel River. Studies of the economic and demographic future of the Monterey Peninsula and of the declining steelhead runs in the river have suggested the need for an increase in water supply. MPWMD's project proposes construction of a new and larger San Clemente Dam and Reservoir close to the site of the existing dam. Other elements of the project include future hydroelectric power generation at the reservoir, altered reservoir operations to allow greater instream river flows, increased use of the Seaside groundwater aquifer and the implementation of a water conservation program.

EIP is reviewing existing documentation in the areas of geology and geomorphology, fisheries, traffic, hydrology and water supply, noise, archaeology and regional economics and growth. New technical studies are being conducted in the areas of wildlife and botany, visual quality, fiscal impacts, air quality and land use.

Flow in the lower reaches of the Carmel River has been depleted by heavy groundwater pumping for municipal supply.

Gibraltar Dam EIR/EIS
City of Santa Barbara/Los Padres National Forest

EIP Associates worked closely with the Forest Service to develop ways in which the dam could be built without adversely affecting natural resources and recreation in the Forest.

The City of Santa Barbara needed to expand its water supply to provide water for growth and to replace water lost through reservoir siltation. The City of Santa Barbara and the U.S. Forest Service acted jointly as the lead agency for preparation of the environmental documentation. EIP Associates prepared the EIR/EIS on the project.

Relevant Project Experience

Principal environmental issues included effects on the Least Bell's Vireo, a federally-endangered species, the treatment of mine tailings within the watershed and the effects of a raised dam on downstream users of water from the Santa Ynez River. A consultation with the U.S. Fish and Wildlife Service was conducted under Section 7 of the Endangered Species Act to determine whether mitigation measures could be built into the project to protect the Vireo's habitat.

Armored Vehicle Corridor EIR/EIS
U.S. Department of the Navy

EIP studied the impacts associated with a proposed corridor that will run about 25 miles between Fort Irwin and Twentynine Palms, in the Mojave Desert. EIP prepared the study under a two-year term contract with the U.S. Department of the Navy.

The study area included the Bureau of Land Management Wilderness Study Area (WSA). Concerns included impacts on rare plants, wildlife, Manix Wash Historic Trail, and nearby housing and windmills in the Newberry Community.

Stockton East Water District Farmington Canal Environmental Assessment, Wetlands Regulatory Compliance, and Rare Species Surveys and Mitigation Plans
Stockton East Water District

This project is composed of the excavation of tunnels construction of an open canal and use of existing seasonal creek channels for the conveyance of Stanislaus River water behind the New Melones Dam from the Goodwin Reservoir

Since 1984, the Stockton East Water District (SEWD) has planned and constructed the 38-mile long Farmington Canal project, a water conveyance system between the Stanislaus River in Stanislaus County and the SEWD treatment plant in San Joaquin County. During the planning and construction of the Farmington Canal Project, EIP provided the following services:

EIR/EIS - EIP prepared a scoping report based on the issues identified at a series of public and agency meetings. An EIR/EIS was prepared and certified that identified and mitigated critical areas of concern such as

salt water intrusion into groundwater basins, surface water quality, impacts to agriculture, cultural resources, and fish and wildlife.

Wetland Regulatory Compliance - EIP conducted a wetland delineation along the entire 38-mile long project reach. Based on the Corps verified wetland delineation, an impact analysis and a conceptual wetland mitigation plan was prepared to accompany an application for a Section 404 of the Clean Water Act Individual Permit. Upon issuance of the Individual Permit, EIP prepared wetland creation construction specifications and grading plans and supervised the construction and revegetation of nine acres of created wetland habitat in 1993. EIP will conduct a five-year maintenance and monitoring program to ensure success of the wetland mitigation effort.

Rare Species Surveys and Mitigation Planning - During the planning stages of this project, EIP conducted surveys for rare, threatened, or endangered plant and wildlife species. An unrecorded occurrence of Colusa grass (*Neostaphia colusiana*) was discovered along the proposed canal route. The canal route was relocated to avoid this endangered plant species.

The lower reaches of the Farmington Canal fall within the range of the giant garter snake (*Thamnophis gigas*), a state- and federally-listed threatened species. As a part of the Corps 404 process in accordance with Section 7 of the Endangered Species Act, EIP prepared a giant garter snake mitigation plan that was approved by USFWS and DFG. EIP supervised the implementation of the mitigation plan in 1993 that mitigated for the loss of potential giant garter snake habitat from canal construction along portions of Rock and Duck Creeks.

Relevant Project Experience

Monterey Peninsula Water Management District Water Supply Project EIR/EIS
Monterey Peninsula Water Management District

In this continually evolving project, EIP prepared two Supplemental Draft EIR EIS's in 1988 and in 1991 responding to the need to analyze additional alternatives to the New San Clemente Dam.

EIP has been involved with the Monterey Peninsula Water Management District (MPWMD), assisting in their long-term water supply planning since 1986. This work effort was initiated with the completion of the New San Clemente Dam EIR, the first of several studies, surveys and planning documents prepared for MPWMD that examined numerous water supply alternatives.

Supplemental Draft EIR/EISs I and II, prepared for MPWMD and the San Francisco District of the Corps of Engineers, each examined ten and five alternative storage reservoirs (respectively) on the mainstream or tributaries to the Carmel River. In addition, both documents examined a desalination plant component in combination with a storage reservoir for some of the alternatives. The Final EIR/EIS examined the environmental impacts of the preferred alternative, the 24,000 acre-foot New Los Padres Dam and Reservoir, as well as the No-Project alternative. The Final EIR/EIS includes a comprehensive Mitigation and Monitoring Program Plan. Some of the major issues that surrounded this project are listed below:

- Fisheries and aquatic life
- Water supply performance, water quality, and sediment transport
- Red-legged frog, southwestern pond turtle, and spotted owl surveys
- Wetlands and riparian habitat protection and enhancement
- Recreation and land use
- Traffic, air quality and noise
- Native American Esselen Indian Archeological concerns
- Growth inducement

Relevant Project Experience

Eastern Municipal Water District Reclaimed Wastewater Pipeline (Reach 4) EIR/EIS
Eastern Municipal Water District

As a result of EIP's work, the pipeline alignment was revised to avoid all direct impacts on listed species or their habitats

EIP Associates conducted biological reconnaissance surveys of several alternative alignments for Reach 4 of the proposed EMWD Reclaimed Wastewater Pipeline in Riverside County, California. This reach of the pipeline extended from the Sun City Regional Wastewater Treatment Plant through the community of Lake Elsinore to Temescal Wash, a tributary of the Santa Ana River. Several state and federally listed endangered species were known to be present in the project area and were assessed by EIP. These species were the Stephens' kangaroo rat, the least Bell's vireo, the California gnatcatcher, and the orange-throated whiptail. Several listed plants were also present. Investigations focused on potential direct and indirect impacts to these species. An extensive analysis of the potential indirect impacts of the traffic noise, construction noise, and air emissions was performed to address both the long-term and short-term impacts on species occupying areas in proximity to the pipeline construction corridor.

Cajon Pipeline EIS/EIR
Cajon Pipeline Company and the Bureau of Land Management

EIP undertook a complete environmental analysis of the proposed pipeline, including extensive biological and cultural surveys

EIP Associates was selected to prepare the CEQA and NEPA environmental documentation for the proposed Cajon Pipeline project. EIP Associates prepared a joint EIS/EIR for the project which originally proposed the construction of a 142-mile, insulated pipeline which would carry heavy crude oil from the All American Pipeline's 12 Gauge Lake Heater Station in the High Desert to the GATX crude oil station in Carson. The Final EIR/EIS was completed in 1993 and, subsequently, a Grant of Right-of-Way was issued to the project by the Bureau of Land Management.

The Cajon Pipeline project was subsequently revised to instead construct a shorter pipeline which would transport crude from 12 Gauge Lake to the Etiwanda Generating Station in the City of Rancho Cucamonga.

Relevant Project Experience

At the Etiwanda Generating Station, the Cajon Pipeline would connect with an existing pipeline owned by the Edison Pipeline and Terminal Company (EPTC). The EPTC Pipeline will be used to transport oil to refineries and terminals in the Los Angeles basin. EIP prepared a Supplemental Final EIS and a Subsequent EIR analyzing the environmental effects of the Cajon/EPTC proposal.

For each phase and or modification to the project, EIP has conducted the appropriate biological, archaeological and other technical studies necessary for completing the environmental analysis.

EIP has prepared an Erosion and Sedimentation Control Plan, a Revegetation Plan, and a Construction, Operation, and Maintenance Plan for the Cajon Pipeline. Cultural and biological surveys were also completed by EIP for three segments of the EPTC Pipeline (totaling 19 miles) which need to be replaced with larger diameter pipe in order to accept oil delivered by the Cajon Pipeline.

Biological studies conducted for the Cajon/EPTC project have included: botanical and wildlife reconnaissance surveys (Cajon and EPTC); field surveys and habitat evaluations; sensitive species surveys; coordination with U.S. Fish and Wildlife Service, California Department of Fish and Game, and California Native Plant Society; development of Revegetation and Restoration Plan; and stream crossings and waters of the U.S. analysis. Archaeological studies for the Cajon/EPTC Pipeline Project included archival research and development of historic contexts; intensive survey of the project's area-of-potential effect; resource mapping and documentation; site testing and resource evaluations using National Register and California Register criteria; preservation planning; and consultation with affected Native American groups and responsible agencies.

BARBARA W. SAHM
Senior Associate

Barbara Sahm has over 18 years of experience in managing preparation of complex environmental analyses pursuant to CEQA and NEPA. She was the Environmental Review Officer for the City and County of San Francisco for 11 years. In that capacity, she supervised preparation of environmental documents for San Francisco's Department of Public Works, the Clean Water Program, the San Francisco Water Department and Hetch Hetchy Water & Power, San Francisco International Airport, and other County agencies and departments, as well as for private development projects.

TECHNICAL CAPABILITIES

- Review of CEQA and NEPA documents for legal adequacy
- Interpret CEQA Guidelines and NEPA Regulations
- Manage preparation of environmental documents on complex projects with wide varieties of issues such as transportation, air quality, noise, archaeology/historic preservation, geotechnical, hazardous waste, socioeconomics, land use/zoning, and growth inducement
- Managed staff of the San Francisco Office of Environmental Review and consultant teams preparing EIRs, joint EIR/EIS's, negative declarations, and other environmental review documents on major urban planning and public development projects

EDUCATION AND AFFILIATIONS

J.D., Cum Laude, University of Santa Clara School of Law, Community Services Award, Environmental Law Society
A.B., Biological Sciences, Smith College, Northampton, Mass.
Member, State Bar of California

PROFESSIONAL AWARDS

American Planning Association, National 1993 Current Topic Award, Environmental Planning; for Mission Bay Final Environmental Impact Report
American Planning Association, California Northern Section, Honorable Mention, Focused Topic, 1992, Highlights & Conclusions: FEIR Summary
Association of Environmental Professionals, Outstanding Environmental Document, 1989, for Mission Bay Draft Environmental Impact Report

PROFESSIONAL ACTIVITIES/PUBLICATIONS

Panelist, Environmental Review of Military Base Reuse Plans, Association of Environmental Professionals annual conference, April, 1995
Presenter, commenting on proposed revisions to State CEQA Guidelines on behalf of the City and County of San Francisco, California Resources Agency hearings, Sacramento, 1993 and 1996
Program Participant, New York City Environmental Quality Review (CEQR) Generic/Programmatic Impact Analysis Workshop, New York Department of City Planning and Environmental Protection, New York, January 1991.

Panelist, Workshop on Cumulative Impact Analysis in CEQA, Association of Environmental Professionals annual conference, May, 1990

Participant and author of paper, "Coping with Environmental Factors in a Hillside City: The San Francisco Experience," at International Conference on Hillside Cities, sponsored by United Nations Center for Regional Development and the City of Nagasaki, Nagasaki, Japan, November, 1989

PROJECT EXPERIENCE

- Environmental Review Officer or EIR Project Manager for over 50 EIRs or EIR/EISs on high rise office buildings, hotels, residential developments, General Plan amendments, Redevelopment Plans, and public buildings.
- Alternatives to Replacement of The Embarcadero Freeway and the Terminal Separator Structure EIS/EIR. Environmental Review Officer for joint EIS/EIR by San Francisco, Caltrans and FHWA.
- Waterfront Land Use Plan EIR. Environmental Review Officer for Program EIR on land use plan for 7-mile Bay shoreline under the jurisdiction of the Port of San Francisco.
- San Francisco International Airport Master Plan EIR. Environmental Review Officer and EIR Project Manager for Program EIR.
- Environmental Review Officer and/or EIR Project Manager for 9 EIRs and several negative declarations on various sewage treatment, pump station, storage and transport projects for the San Francisco Clean Water Program.
- Environmental Review Officer for environmental evaluations of San Francisco Water Department and Hetch Hetchy Water and Power projects expanding the San Andreas Water Treatment Plant, enlarging storage reservoirs in the Sierra Nevada foothills and rehabilitating major supply pipelines that cross San Francisco Bay and various endangered species habitats.

RICHARD NICHOLS
Director, Biological Resources

Richard Nichols has 15 years of experience as a professional biologist and range manager. His responsibilities include preparation of environmental analyses for development plans and projects, mitigation and restoration planning and monitoring, mining reclamation, erosion control, endangered species investigations, and wetland delineation and assessment.

TECHNICAL CAPABILITIES

- Directs preparation and implementation of reclamation, erosion control, and mitigation plans to restore upland habitats such as oak woodlands, dune scrub, and desert shrublands, as well as wetlands habitats including riparian woodlands, vernal pools, salt marshes, and freshwater marshes.
- Conducts and manages botanical inventories and rare plant surveys and is thoroughly familiar with both Federal and State Endangered Species Act requirements and agency guidelines for surveys, permits, and mitigation plans.
- Directs field inventories, literature reviews, research, and monitoring to assess impacts from development projects and formulate/evaluate feasible and successful mitigation measures.
- Prepares and manages CEQA/NEPA documents and mitigation/ management plans to evaluate and mitigate impacts from development, mining, or agricultural activities on wetlands, riparian corridors and other sensitive habitats.
- Has extensive training and experience in conducting jurisdictional wetland delineations and function/value assessments.

EDUCATION AND AFFILIATIONS

M.S., Range Management, University of California, Davis
B.A., Biological Sciences, California State University, Chico

Instructor on Wetland Delineation and Regulation, University of Wisconsin-Madison 9th Annual Dredging and Placer Mining Conference

Certificate of Achievement, Gen. T.D. White Natural Resources Conservation Award

Society for Ecological Restoration
Society of Wetland Scientists
California Botanical Society
California Native Plant Society
Society of Range Management
Soil and Water Conservation Society

PROJECT EXPERIENCE

Biological Mitigation/Habitat Restoration
- Petaluma River Bank Stabilization, Erosion Control, and Biological Mitigation Project for the Petaluma Factory Outlet Village, Sonoma County
- Lake Piombo Riparian Restoration Project, Sonoma County
- Boulder Creek Riparian Restoration Project, Ventura County
- Upper Sacramento River Fish and Wildlife Habitat Restoration Reconnaissance Report, Butte, Tehama, Glenn, and Colusa Counties
- Natomas Area Revised Flood Control Improvement Project, Sacramento County
- Sisquoc river Quarry Habitat Mitigation and Monitoring Plan, Santa Barbara County

Erosion Control/Stormwater Pollution Prevention Plans
- SWPPP, Priest Reservoir
- SWPPP, Tuolumne County
- Santa Margarita Emergency Erosinon Control Plan, San Luis Obispo County
- Tuolumne Meadows Sewer Replacement, SWPPP, Toulumne County

CEQA/NEPA
- Pebble Beach Lot Program EIR, Monterey County
- Stanford Sand Hill Road Projects EIR, Santa Clara County
- Lower Crystal Springs Reservoir Dam Improvements, IS/EA, San Mateo County
- Hayward South of Route 92 Specific Plan EIR, Alameda County
- Blomquist Road Realignment EIR/EIS, San Mateo County

Biological Monitoring
- Rush Ranch Vegetation and Waterfowl Monitoring Project, Solano County
- Hunter Ranch Golf Course Biological Mitigation 5-Year Monitoring, San Luis Obispo County
- Petaluma Biological Mitigation Monitoring Program
- Calaveras Creek Biological Mitigation Monitoring Program, Alameda County

Wetland Delineation and 404 Permitting
- Redwood City Police Facility, 404 juisdictional delineation and mitigation plan, San Mateo County
- Benicia Bridge/I-680 Highway Improvement, 404 jurisdictional delineation, Solano County
- Sisquoc River Quarry 404 Permit, Santa Barbara County
- Priest Reservoir Diversion 404 Permit, Tuolumne County
- Early Intake Rehabilitation 404 Permit, Tuolumne County

ROY LEIDY
Senior Technical Director, Biological Resources Group

Mr. Leidy, as the Senior Technical Director of EIP's Biological Resources Group, provides leadership, technical expertise and guidance to EIP's biological resources staff.

TECHNICAL CAPABILITIES

- Technical experience includes fish and wildlife impact assessments using HEP, WHR and IFIM, wetlands delineations and assessments, endangered species surveys and impact evaluations, HCP/HMP planning, river-reservoir ecosystem modeling, water quality modeling and analysis, stream channel stability and watershed assessments, and fish passage and screening design.

- Extensive experience working in the western U.S. on fisheries and water quality issues.

- Intimately familiar with NEPA and CEQA compliance procedures and regulations. He possesses extensive knowledge of resource management issues and has served as an expert witness on a variety of fish and wildlife topics.

- Formerly employed twelve years with the U.S. Forest Service, U.S. Geological Survey, and U.S. Fish and Wildlife Service working with many local, state, and federal agencies. His work with the U.S. Corps of Engineers and Bureau of Reclamation included fish screening on the Columbia River, bank protection projects, 404 permitting, flood control projects, aquatic ecosystem modeling, and reservoir fisheries management.

- Responsibilities include project and technical management of natural resource studies and regulatory permitting and compliance.

EDUCATION AND AFFILIATIONS

B.S., 1972. University of California, Berkeley, Forestry and Resource Management

Certified Fisheries Scientist, #1730,
CA Registered Environmental Assessor, #02704, 1991
American Fisheries Society, 1985
Pacific Fisheries Biologists
North American Lake Management Society
Society of American Icthyologlists and Herpetologists

PROJECT EXPERIENCE

Ecological Studies
- CVPIA Anadromous Fish Restoration Program Assistance - prepared Plan of Action
- Fishery Management Problems at Major Central Valley Reservoirs, California
- Ecology, Status and Management of the Giant Garter Snake, Central Valley of California
- Life Stage Periodicities of Anadromous Salmonids in the Klamath River Basin, Northwestern California

Instream Flow Studies
- Fisheries Investigations of the Yuba River, Sacramento River Basin, California
- American River Instream Flow Evaluation, California
- Rush Creek Instream Flow Study, California
- Bear Creek Instream Flow Study, California

Hydroelectric Projects
- Garden Bar Dam and Reservoir Pumped Storage Hydroelectric Project, California
- Bonneville Second Powerhouse, Washington-Oregon
- Shelley Hydroelectric Project, Idaho

Environmental Impact Reports
- Bodie Mineral Exploration Program Environmental Impact Report
- Conway Ranch Environmental Impact Report
- Mammoth Lakes Basin Comprehensive Water Management Environmental Impact Report
- Snowcreek Ski Area Supplemental Environmental Impact Statement

- Rush Ranch, Northern California - Burrowing Owl Trapping and Relocation
- Magma Nevada Mining Company, Golden Eagle Studies and Federal Permit Acquisition, Ely, Nevada
- Catalina Island Bald Eagle Reintroduction Project
- USFWS - California Condor Egg Shell Collection for Analysis Program
- Santa Cruz Predatory Bird Research Group - Southern California Peregrine Falcons reintroduction manager
- United States Forest Service, Central California - Protection and Observation of Nesting Peregrine Falcons, field technician
- The Peregrine Fund, Laboratory of Ornithology, Cornell University, Ithaca, New York, field technician

DAVID WOLFF
Biologist/Wetland Specialist

TECHNICAL CAPABILITIES

David Wolff is a biologist, wetland specialist, and project manager for wetland related and biological resource management projects. Mr. Wolff has special expertise in both flora and fauna, including terrestrial, aquatic, and marine environments. He is trained and experienced in the identification and delineation of U.S. Army Corps of Engineers (Corps) jurisdictional wetlands. Mr. Wolff has performed U.S. Army Corps of Engineers verified wetland delineations on sites ranging from 100 to 4,500 acres with up to 600 acres of wetlands and other waters of the U.S. He is well versed in the wetland regulatory program and has prepared applications and wetland mitigation plans for obtaining Section 404 of the Clean Water Act Corps Permits and Authorizations. Mr. Wolff is also experienced in the creation and restoration of wetland and riparian habitats.

Mr. Wolff is skilled in the preparation of biotic resource sections for NEPA and CEQA documents and biological resource assessments involving sensitive habitats and special-status species, aerial photograph interpretation, and vegetation mapping. Mr. Wolff is very knowledgeable in the regulatory requirements and laws for special-status plant and wildlife species, including the Habitat Conservation Plan process. Mr. Wolff has special expertise in the identification of plants and the identification and mapping of vegetation types and plant communities. Mr. Wolff is also skilled in the identification, habitat requirements, and ecology of vertebrates of the Pacific states. He has managed and conducted rare, threatened, and endangered plant and wildlife species surveys, and raptor and sensitive bird species nesting surveys for biological assessments and environmental documents. He is experienced in agency consultation/ coordination with local, state, and federal regulatory agencies including the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the California Department of Fish and Game, and the California Department of Transportation.

PROJECT EXPERIENCE

Sacramento Area Flood Control Agency Habitat Conservation Plan
Deputy Project Manager and staff biologist for the preparation of a Habitat Conservation Plan for the Swainson's hawk and giant garter snake. Coordinated in-depth biological studies and literature search and review, developed alternatives analysis, and assisted in the coordination of the consensus process with all affected parties for the development of a final plan.

Stockton East Water District Farmington Canal Wetland Studies

Acted as project manager, conducted wetland delineation and prepared mitigation plan (including feasibility studies) for obtaining both individual and nationwide permits for the fill of 4 acres of waters of the U.S. for a 38-mile-long water conveyance project. Prepared giant garter snake mitigation plan. Implemented mitigation plan by managing the creation of nine acres of wetlands.

Roseville Monitoring and Permit Compliance
Performed wetlands assessment and prepared wetland mitigation plan for obtaining 404 Individual Permit for road and infrastructure projects.

Valensin Ranch Wetland Delineation and Biological Assessment
Conducted wetland delineation on 4,500-acre site that resulted in the delineation of over 600 acres of wetlands including streams, lakes, marshes, and vernal pools. Prepared a biological assessment report that included managing and conducting a rare plant survey and sensitive wildlife species surveys for the Swainson's hawk, tricolored blackbird, burrowing owl, tiger salamander, western spade-foot toad, and the valley elderberry longhorn beetle.

Rancho Murieta Wetland Delineation and Mitigation Plan Development
Conducted wetland delineations, performed feasibility studies, and prepared wetland mitigation plan for obtaining nationwide permit for the fill of approximately 8 acres of wetlands for residential development projects. Assisted with the implementation of the mitigation plan to create over 10 acres of wetland, riparian and vernal pool habitats.

Caltrans Format Environmental Documents
Conducted and prepared Natural Environmental Studies and *Biological Assessments for projects requiring compliance* with Caltrans guidelines for CEQA and NEPA documents. This has included numerous highway improvement and bridge replacement projects involving wetlands and special-status plant and wildlife species. Projects include U.S. 50/Zinfandel Overpass Expansion Negative Declaration, Leisure Town Road Initial Study, and Sacramento County bridge replacement projects for Eagles Nest Road, Lee School Crossing Road and Cherokee Lane.

CEQA Biological Resource Studies
Conducted necessary studies and prepared biological resource sections for CEQA and NEPA environmental documents. Studies and reports prepared for both program and project-specific analysis. Projects include the Lincoln Public Facilities Element, Modesto Village I Specific Plan, City of Sacramento Methodist Hospital Retail Center, City of Vacaville Kaiser Hospital, Chicken Ranch Slough

Drainage Masterplan Study, and Weatherstone (Placerville) and New Standard (Sonora) Subdivision EIR's.

EDUCATION & AFFILIATIONS

B.A. in Ecology and Systematic Biology, San Francisco State University

Member of the Association of Environmental Professionals, American Planning Association, the Society for Wetland Scientists, the Association of State Wetland Managers, the California Native Plant Society, the Planning and Conservation League, the Nature Conservancy, and the Audubon Society

E.J. KOFORD, M.S., C.W.B.
Senior Biologist

Mr. Koford is a certified biologist, with broad experience in water quality, hazardous waste, NEPA/CEQA and threatened and endangered species issues.

TECHNICAL CAPABILITIES

- Mr. Koford has over 17 years of experience in wildlife and fisheries investigations and threatened and endangered wildlife surveys.
- Mr. Koford has extensive experience in environmental regulatory compliance with the federal and state Endangered Species Acts. He is well versed in the requirements of NEPA and CEQA.
- Mr. Koford has performed wildlife surveys in a total of 18 states and countries. He has prepared EIS/EIRs for a variety of clients, and has created several mitigation plans.
- His experience includes preparing biological analyses, endangered species consultations, preparing permits, mitigation and compliance studies for 110 miles of levee improvements in San Joaquin County.
- His experience includes endangered species surveys for approximately 80 miles of SMUD transmission lines and gas line corridors and 20 miles of proposed oil pipelines for Southern California Edison.

EDUCATION AND AFFILIATIONS

M.S. in Ecology, from the University of California
B.A. in Zoology, from the University of California
Natural Communities of California, University of California Extension Class; Co-instructor, 1996
Certified Wildlife Biologist, the Wildlife Society, 1990
Certification for Hazardous Waste Operations, 1988-1992
Operator License (OUPV), US Coast Guard
Designing and Negotiating Studies Using IFIM
Habitat Evaluation Procedure (HEP)
Wildlife Society, Western Chapter

PUBLICATIONS

"Environmental Impact Reports on the Internet," Association of Environmental Professionals, Environmental Monitor, Summer 1996.

"Living Fossils-Fairy Shrimp of California," *Outdoor California*, September-October 54(5), pp. 23-26.

"Conceptual Habitat Suitability Index Model for Swainson's Hawk," *Habitat Evaluation Notes and Instream Flow Chronicle*, July 1993, III (2), pp. 2-6.

"Assessment and Mitigation for Endangered Vernal Pool Fairy Shrimp." *Published by Ebasco Environmental for ASCE 1993 Water Resources Planning and Management Division Conference*, May 1-5, 1993.

"Why Should We Bother to Save Endangered Species," *The Business Journal*, February 22, 1993.

PROJECT EXPERIENCE

NEPA/CEQA
- Beneficial Reuse of Biosolids by Land Application EIR, City of Modesto.
- San Joaquin River Parkway Program EIR for Master Plan, San Joaquin River Conservancy.
- San Joaquin Flood Prevention Program EIR and SEIR, San Joaquin Area Flood Control Agency
- *UC San Joaquin Campus EIR and Water Supply Report*, University of California.
- EIR and Permitting for Ark Energy, Carson Energy Group, Campbell's Soup, and Proctor & Gamble Cogeneration Facilities
- Licensing Review Program; Federal Energy Regulatory Commission
- Sacramento Army Depot Relocation/ Realignment EIS; Army Corps of Engineers

Wildlife
- Deer Creek Hills General Amendment EIR, Sacramento County Department of Environmental Review and Assessment.
- Tonner Canyon Biological Surveys and Permitting support; Southern California Edison.
- Sacramento Army Depot Natural Resources Management Program/Biological Data Report; Army Corps of Engineers, Sacramento
- Wildlife and HEP Evaluations for Ramsey-French Meadow Hydroelectric Project, Upper Stanislaus River, NCPA Tuolumne County, California
- Sierra Ski Ranch Expansion EIR/EIS
- Devil's Nose Hydroelectric Project, Exhibit E, Amador County Water Agency.

Threatened and Endangered Species
- Biological Sensitivity Brochures, Training and Compliance, San Joaquin Area Flood Control Agency, Carson Energy.
- Habitat Conservation Plan, Section 2081, Implementing Agreement for Mustang Hill Landfill, Kings Co., California
- FERC Relicensing Studies for Umpqua Hydroelectric Project, Pacific Corps
- Threatened and Endangered Species Surveys for New Transmission and Gas Line Corridors; Sacramento Municipal Utility District, Sacramento County
- California-Oregon Transmission Project; Transmission Agency of Northern California
- Survey and evaluations for Vernal Pool Fairy Shrimp for SMUD, SAFCA and SJAFCA

Water Quality
- Water Quality Reports for CalTrans projects.
- Water Quality Analysis for American River Parkway Restoration Project, Sacramento Area Flood Control Agency
- Phoenix Fields Vernal Pools Preserve Water Quality Runoff Study; Sacramento
- Stockton Cogeneration Plant NPDES and Supplementary EIR, Air Products Corporation
- RI/FS, Water Quality Assessment; Lorentz Barrel & Drum, U.S. Environmental Protection Agency
- Shelley and Mono Basin Hydroelectric Projects Permit Review; Federal Energy Regulatory Commission

RONALD P. WALKER
Wildlife/Wetlands Biologist

As an EIP biologist and wetland specialist, Mr. Walker conducts a variety of wildlife and wetland studies for proposed development projects.

TECHNICAL CAPABILITIES

- Mr. Walker's responsibilities include evaluating and mapping wildlife habitats, assessing potential impacts and identifying feasible mitigation measures.

- Mr. Walker is trained and experienced in the identification and delineation of U.S. Army Corps of Engineers jurisdictional wetlands on sites ranging from 1 to 1,000 acres.

- Mr. Walker is well versed in the wetland regulatory program and has prepared applications for obtaining Section 404 permits and other authorizations.

- Mr. Walker has prepared biological resource sections for NEPA and CEQA documents and biological resource assessments involving sensitive habitats and special-status species. He has conducted rare, threatened, and endangered plant and wildlife surveys, and raptor nesting surveys for biological assessments and other environmental documents.

- Mr. Walker has 16 years of experience dealing with raptors, including field research in Kenya, Fiji, Cook Islands, Paraguay, Brazil, Baja California, and Australia. Mr. Walker is knowledgeable in the habitat requirements, identification, and ecology of raptors of North America. He is skilled in trapping, banding, radio-telemetry, captive propagation and reintroduction of various large raptors, including California condor, peregrine falcon, and bald eagle. He has designed and prepared artificial nest ledges for falcons and successfully trapped and relocated burrowing owls into artificial burrows.

EDUCATION AND AFFILIATIONS

Research Associate, Western Foundation of Vertebrate Zoology
Member, National Association of Environmental Professionals
Member, Raptor Research Foundation
Member, American Ornithologists' Union
Technical Lead for Fish and Wildlife Subcommittee, California Mining Association

PROJECT EXPERIENCE

Wetland Ecology

- Sacramento Area Flood Control Agency, Wetland Delineations for Local Projects
- Newmont Gold Company, Gold Quarry Study Area, Delineation of Wetlands and other Waters of the U.S., Elko, Nevada
- Barrick Goldstrike Mine, Wetland Delineation and Permit Compliance, Nevada
- Dutch Ravine Trout Restoration, and Habitat Enhancement Project
- Nordic Log Home Construction Facility, Wetland Delineation, Lincoln
- SR 65 Interchange Vernal Pool Surveys, Lincoln

Biological Resources

- Newmont Gold Company, Environmental Studies Emigrant Spring Study Area, Carlin, Nevada
- Snowcreek Ski Area, Forest Carnivore Field Survey, USFS, Mammoth Lakes, California
- Morro Bay Kangaroo Rat Population Studies, including Trapping and Marking
- Biological Constraints Analysis for proposed Vista Del Lagos Subdivision, Auburn, California
- Atlantic Salmon Surveys, New Hampshire
- Big Bear Municipal Water District, fish population sampling in Bear Creek, Big Bear, California
- North Villages Development, Rare Fauna Surveys, Vacaville, California
- Ripon Interchange, Biological Constraints Survey, Ripon, California
- Twelve Bridges Specific Plan EIR, Wildlife Surveys, Lincoln

Ornithological Studies

- Sacramento Area Flood Control Agency, Burrowing Owl and Swainson's Hawk surveys
- FirstMiss Goldmine, Golden Eagle Protection and Enhancement Plan

LEONORA P. ELLIS
Biologist/Botanist

Lee Ellis has more than 20 years experience as a biologist, conducting numerous rare plant and wildlife searches, biological resources and habitat assessments and inventories, and wetlands determinations.

TECHNICAL CAPABILITIES

- Contributes to the biological sections and writes impacts and mitigation sections for resource management reports.
- Conducts wetlands determinations.

EDUCATION AND AFFILIATIONS

B.S. Conservation from Cornell University, Ithaca, New York
M.S. Zoology from the University of New Hampshire, Durham, New Hampshire

California Community College Instructor
California Botanical Society
National Audubon Society - Ohlone Chapter, field trip leader, Christmas Bird Count section leader
Northern California Botanists
Phi Sigma National Honorary Biology Fraternity

PROJECT EXPERIENCE

Environmental Compliance Monitoring
- Priest Reservoir, San Francisco Water Department, Utilities Engineering Bureau, Tuolumne County
- Calaveras Pipeline/Maguire Springs, San Francisco Water Department, Utilities Engineering Bureau, Alameda County
- Laguna Grande/Roberts Lake, Monterey County
- Olympia and Santa Cruz Aggregates Quarries, Santa Cruz County
- Bay Division Pipelines Maintenance Project, Alameda County
- Lake Piombo, Sonoma County

Wetlands Determinations
- Kaiser Foundation Hospital, Union City
- Pepsi - Milpitas Plant, Santa Clara County
- Spectrum I, San Diego Creek, Bee Canyon Wash, Agua Chinon Wash, Orange County

Floral and Faunal Surveys
- Inventories of East Bay Municipal Utility District Watershed Lands: Pardee Reservoir, Calaveras County; Camanche Reservoir, Amador County; Briones, San Pablo, San Leandro Reservoirs, Contra Costa County
- Sargent Ranch, Santa Cruz/Santa Clara Counties
- Thousand Hills, Stanislaus County
- Inventories of Southeast and Southwest General Plan Areas, City of Santa Rosa

Desert Vegetation Surveys
- Amerigold, Blackhawk Mine, San Bernardino County
- SoCal Gas Pipelines, Riverside County; Chocolate Mountains, Imperial County; Delano-Pixley, Tulare County

Habitat and Impact Assessment
- Proposed Reservoir and Pipeline Alignment Sites, Pajaro Valley Water Management District, Monterey County
- Proposed Reservoir Sites, Santa Cruz Water Department, Santa Cruz County
- Unocal, Tosco, Wickland Selby, and Wickland Crockett, Contra Costa County
- Stanford West Apartments and Senior Housing, Palo Alto, Santa Clara County
- Sand Hill Road Extension, Santa Clara County
- Hunter's Point, City and County of San Francisco
- Alameda Creek Diversion Dam, Alameda County
- Upper and Lower Crystal Springs Reservoirs, San Mateo County
- UCSF - LRDP Major New Bay Area Sites
- Park Avenue Redevelopment, South Lake Tahoe, Eldorado County

Habitat Assessment and Rare Plant and Wildlife Surveys
- Denniston Reservoir and Pipeline/Crystal Springs Pipeline, Coastside Water District, San Mateo County

Vegetation Mapping and Rare Species Survey
- Elwood Beach, Santa Barbara County
- Bay Division Pipelines 1 and 2, San Francisco Water Department, Alameda and San Mateo Counties
- Oakdale General Plan, Stanislaus County
- Gilroy Foods Cogeneration Project, PG&E Tower Relocation, Morgan Hill, Santa Clara County
- Contra Costa Central Landfill, Contra Costa County

JULIA D. CURLETTE
Botanist

As a botanist, Ms. Curlette has over two years of experience in conducting rare plant and animal surveys and performing wetland delineations. Ms. Curlette also is experienced in wetland and riparian vegetation restoration and vegetation management for waterfowl.

TECHNICAL CAPABILITIES

- Ms. Curlette has completed the Wetland Training Institute - Wetland Delineation course and has conducted wetland delineations in accordance with U.S. Army Corps of Engineers guidelines and regulations to determine jurisdictional wetlands.
- Ms. Curlette has written biological constraints sections for Initial Studies and EIRs.
- Ms. Curlette is experienced in performing rare plant identifications and inventories. She has conducted surveys for the purpose of mapping special-status plant species and habitats in the Central Valley and foothill regions. Ms. Curlette's experience also includes conducting surveys in vernal pools, wetlands, valley foothill and grassland areas, and chaparral.
- Ms. Curlette has experience in habitat restoration for riparian, wetland, and grassland communities. She has managed planting and establishing vegetation for restoration areas in the Central Valley.
- Ms. Curlette has supervised the installation of erosion control materials and plants for stream bank stabilization.
- Ms. Curlette is experienced in conducting plant inventories, collection, and cataloging for the purpose of herbarium entry.
- Ms. Curlette is experienced in waterfowl inventory and wetland vegetation management.

EDUCATION AND AFFILIATIONS

B.A. in Botany, University of California at Davis

California Native Plant Society
The Nature Conservancy-Cosumnes River Preserve Volunteer
Stone Lakes National Wildlife Refuge-Biological Tour Guide

PROJECT EXPERIENCE

Wetland Ecology
- Wetland Delineation, Sacramento Area Flood Control Agency, Sacramento, California
- Wetland Delineation, San Joaquin Area Flood Control Agency, Stockton, California
- Restoration of Wetland and Riparian Vegetation, Vegetation Management for Wildlife Habitat, Bufferlands, Sacramento Regional Wastewater Treatment Plant, Elk Grove, California
- Dry Creek Bank Stabilization Project, Cherry Island Golf Course, Elverta, California

Biological Resources
- Red-legged frog survey - Marble Valley, CA
- Gabbroic and Serpentine Soil - Rare Plant Survey - Marble Valley, CA
- Valley Elderberry Longhorn Beetle Survey, Sacramento Area Flood Control Agency, Sacramento, California
- Biological Constraints Survey, San Joaquin Area Flood Control Agency, Stockton, California
- Waterfowl Inventory, Cosumnes River Preserve
- Vascular Plant Inventory and Collection for Bufferlands Herbarium, Sacramento Regional Wastewater Treatment Plant, Bufferlands, Elk Grove, California
- *Biological Resource Field Studies, Cajon Pipeline*, California
- San Joaquin Kit Fox Survey, EMCON Mustang Hills Landfill, Kettleman Hills, California
- Biological and Habitat Assessment, Northwest Interceptor, Rio Linda, California
- Biological Constraints Surveys, Office of Project Development and Management-California Department of Forestry Station Development in Murphys, Ione, Columbia, Napa, and Tracy

Vernal Pool Survey
- Special-Status Plant Survey, Sun Lakes Estates, Galt, California
- Special-Status Plant Survey, Bufferlands, Sacramento Regional Wastewater Treatment Plant Elk Grove, California
- Special-Status Plans Survey, Aerojet, Rancho Cordova

RICHARD B. HANSON
Associate Planner
Fisheries and Wildlife Biologist

TECHNICAL CAPABILITIES

Mr. Hanson is an associate planner with 15 years of experience in the design, preparation, and management of environmental impact studies. At EIP, Mr. Hanson participates in and directs the preparation of EIRs and EISs. He is thoroughly familiar with CEQA/NEPA compliance and other pertinent federal and State regulations, specializing in those which relate to the protection of fish, wildlife, plant communities and water quality in California and Nevada. Mr. Hanson is certified in Habitat Evaluation Procedures (HEP) by the U.S. Fish and Wildlife Service and has performed Instream Flow Incremental Methodology (IFIM) data analyses. He has a working knowledge of the California Surface Mining and Reclamation Act (SMARA) acquired during his management of several past and ongoing mining-related projects.

From 1976 to 1983, Mr. Hanson participated in the Interagency Ecological Studies Program involving the study of the Sacramento/San Joaquin Delta and San Francisco Bay Estuary. He performed fisheries research and water quality evaluations throughout the system in an effort to assist in the assessment of long-term impacts on Bay/Delta resources associated with increasing water development throughout the State. For the past eight years, Mr. Hanson has prepared and managed numerous environmental documents, including Initial Studies, Environmental Assessments, FONSIs, Negative Declarations, Biological Assessments, Wildlife Coordination Act Reports, and Environmental Impact Reports and Statements. Included in these efforts was the preparation of the Fisheries Impact Study for the Truckee River Operating Criteria and Procedures EIS for the Bureau of Reclamation. He has also assisted in the preparation of applications for Stream Alteration, NPDES, and Section 404 permits for a variety of projects, including aggregate mining operations, general plan updates and amendments, residential developments, and habitat restoration projects. He has performed field surveys and technical analysis for these documents in close coordination with numerous resource agencies, including USFWS, CDFG, National Marine Fisheries Service, Regional Water Quality Control Boards, Environmental Protection Agency, California Division of Mines and Geology, and others.

RELEVANT EXPERIENCE

Southport Sewage Collection and Treatment Facilities Focused EIR
Project Manager for the preparation of a focused EIR on the first two stages of construction of a wastewater master plan for the City of West Sacramento. The first stage of construction would involve improvements to the conveyance system from the Southport area to the existing treatment. It would include two new pump stations and two sections of new force main. The second stage of construction would involve construction of new 3MGD treatment plant in the Southport area and diversion of most of the flow from the Southport area to the new treatment plant.

1992 South Tahoe Public Utilities District Sewage Treatment Plant Expansion (7.7 MGD to 7.9 MGD) EIR/EIS
Project Manager for the preparation of an EIR/EIS on the District's proposal to expand plant capacity from 7.7 MGD to 7.9 MGD.

Syar Mining and Reclamation EIR/EIS
Mr. Hanson is currently Project Manager for the preparation of an EIR/EIS on the proposal to mine and reclaim six separate sites within a nine-mile reach of the Russian River in Sonoma County.

City of Tracy Aggregate Resources EIR
Project Manager for the preparation of an EIR on the annexation of lands designated by the State as containing significant aggregate resources to the City of Tracy (EIR certified November 1990).

Kaweah River Rock Mining and Reclamation Project
Project Manager for preparation of an EIR on the proposed development of a 775-acre aggregate mine and processing plant adjacent to the Kaweah River in Tulare County currently in progress.

EDUCATION & AFFILIATIONS

B.S. in Zoology from the University of California at Davis in 1975
M.S. in Biological Sciences with a specialization in fisheries management from California State University at Sacramento in 1985

RITA C. LEE
Environmental Scientist

Rita Lee is an environmental scientist with broad experience in a diverse array of natural resource, development, and industrial projects. She specializes in performing CEQA-level analyses in numerous areas including hydrology and water quality, erosion control, public services and utilities, energy, and cultural resources.

TECHNICAL CAPABILITIES

- Performs comprehensive analyses of water quality and hydrologic effects for environmental impact reports.
- Provides experience in federal Clean Water Act Section 404 permitting requirements, NPDES wastewater and stormwater requirements, and other local and regional agency requirements.
- Assists in developing and analyzing Storm Water Pollution Prevention Plans.
- Supports and assists field monitoring activities for biological resources and wetland studies.
- Performs CEQA-related initial studies.
- Analyzes impacts to public services and utilities.
- Performs quantitative assessments and analysis of energy consumption.
- Evaluates impacts to archaeological and architectural resources and develops mitigation measures in cultural resources sections.

EDUCATION AND AFFILIATIONS

B.S., Soil and Water Science, University of California, Davis
U.C. Davis Extension, Erosion Control and Land Restoration Course

PROJECT EXPERIENCE

Wastewater/Water Supply
- Maintenance of Bay Division Pipelines 1 and 2, Section 404 Permit and Mitigated Negative Declaration, City and County of San Francisco. Responsible for coordinating environmental permit application package for pipeline repair project.
- Tuolumne Meadows Sewer Rehabilitation Storm Water Pollution Prevention Plan (SWPPP), City and County of San Francisco. Developed construction SWPPP for sewer replacement project.
- Priest Reservoir Stormwater Pollution Prevention Plan, City and County of San Francisco. Assisted in development of an erosion control plan as an addendum to Stormwater Pollution Prevention Plan; included biotechnical slope stabilization systems.
- Bayside Discharge Alternatives EIR, City and County of San Francisco
- Downer Canoas Ferrous Chloride Injection Station Project, Negative Declaration, City of San Jose

Transportation
- San Ramon Valley Boulevard Safety Improvements Project, Mitigated Negative Declaration, City of San Ramon. Performed initial study analysis of road-widening project.

Industrial
- Unocal Reformulated Gasoline Project EIR, Contra Costa County. Responsible for analysis of water quality issues for this oil refinery.
- Tosco Clean Fuels Project EIR, Contra Costa County. Responsible for analysis of water quality issues.

Institutions/Universities
- Kaiser Geary Campus Expansion Project EIR, San Francisco. Responsible for analysis of hydrology and water quality, public services, and energy for medical office building expansion.
- University of California, San Francisco, Long Range Development Plan EIR. Responsible for analysis of hydrology and water quality, and cultural resources for site selection for campus expansion.
- University of California, San Joaquin, Site Selection EIR
- State of California Department of Health Services Richmond Laboratories EIR

Land Use
- Pebble Beach Lot Program EIR, Monterey County
- Park Avenue Development Plan EIR/EIS, South Lake Tahoe Redevelopment Agency/Tahoe Regional Planning Agency
- South Lake Tahoe Redevelopment Project No. 1 EIR/EIS, Tahoe Regional Planning Agency and South Lake Tahoe Redevelopment Agency

GEORGE BURWASSER
Senior Geologist

George Burwasser has more than 20 years experience in the study of recent geologic processes and deposits. He gives particular consideration to the effects of seismically-related land instability in California.

TECHNICAL CAPABILITIES

- Responsible for the pedologic, lithologic and seismologic components of environmental impact assessments, studies, and reports.
- Reviews geotechnical reports submitted for General Plan elements, Specific Area Plans and for site-specific projects.
- Conducts site investigations and literature searches to provide, compile, analyze, and evaluate information related to soil and slope stability, landslide and land subsidence susceptibility, erosion potential, and flooding and earthquake hazards.
- Techniques include the interpretation of stereoscopic aerial and terrestrial photographs, soil and rock examination, geologic and geomorphologic mapping.

EDUCATION AND AFFILIATIONS

B.A. in Geology, Case Western Reserve University
M.S. in Quaternary Geology, University of Saskatchewan

Member of the Geological Society of America
Member of the Astronomical Society of the Pacific
Member of the Association of Environmental Professionals

PROJECT EXPERIENCE

General Plans/Specific Plans

- Murrieta General Plan EIR and Specific Plan Review. Under a long-term contract to the city, reviews geologic, seismic, erosion-control and stormwater drainage control chapters of development proposals for compliance with Murrieta's Natural Resources and Safety Elements.

Institutions/Universities

Evaluated geologic and geotechnical investigations and prepared environmental documentation for the following projects:

- University of California, San Francisco, Long Range Development Plan EIR
- University of California, Berkeley, Long Range Development Plan EIR
- University of California, Los Angeles, Long Range Development Plan EIR

Commercial/Residential

- The Woods at Fitch Mountain Initial Study and Mitigation Program, Sonoma County. Prepared geology and hydrology documentation for this upscale project. An innovative drainage system using oversized pipes as retention ponds for stormwater was the major component to be evaluated and redesigned.

Water Supply

- Crystal Springs Water Supply Project EIR and Application for Coastal Development Permit, San Mateo County. Examined effects of new project design including 35,000 more feet of pipeline, a surge tank pump station. Continues evaluation of ongoing maintenance and replacement of other components of the system.
- Pajaro Basin Management Plan Program EIR. Prepared the geology, soils and seismicity impacts evaluation for alternatives to provide nearly 20,000 acre-feet of water to this important agricultural area. Major concerns included aquifer overdraft, seawater intrusion, and construction effects of transmission and storage facilities.

Transportation

- BART—SFO Extension AA/EIS/EIR, San Francisco and San Mateo Counties. Prepared geology section and reviewed hydrology section of the project, including the short-term construction impacts analysis and the long-term effects of the proposed extension. Objectives included identifying soil limitations, developing site rankings, and ascertaining design implications of reducing seismic risk.

Mining and Reclamation

- Leona Quarry Closure and Reclamation Plan/EIR, Oakland. Prepared a focused EIR for the City of Oakland to address impacts associated with continued surface mining operations at the Leona Quarry. Issues of major concern included steepness of the slopes on the site and danger to trespassers.

Waste Management

- Santa Rosa Wastewater Management Plan EIR/EIS. Prepared the geology and hydrology section of the EIR/EIS. Investigations included the Dunham and Brookfield faults as part of corridor analysis from Santa Rosa to the Geysers Geothermal Area.

E I P Associates

Comprehensive Environmental and Planning Services

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415/362-1500 FAX 362-1951

Other Offices: Inland Empire Manhattan Beach Sacramento

COMPENSATION SCHEDULE
SAN FRANCISCO OFFICE

Principal I	$ 160/hour
Principal II	$ 150/hour
Senior Associate I	$ 125/hour
Senior Associate II	$ 115/hour
Associate	$ 95/hour
Senior Professional	$ 85/hour
Professional I	$ 75/hour
Professional II	$ 65/hour
Technician I	$ 60/hour
Technician II	$ 50/hour
Technician III	$ 35/hour
Mileage is charged at	$ .30/mile
Photocopies are charged at	$ .15/page

Direct costs (i.e., travel, meals, lodging, auto rentals, printing, graphic materials, etc.) and subcontractor fees are subject to a 10% administration charge.

1. This schedule is effective from October 1, 1996 to September 30, 1997, and subject to revision thereafter.

2. Invoices will be submitted by Consultant monthly. Client will notify Consultant, in writing, of any objections to an invoice within ten (10 days) of the date of invoice. Otherwise, the invoice shall be deemed acceptable by the Client. Amounts indicated on invoices are due and payable immediately upon receipt. The Client's account will be considered delinquent if *Consultant does not receive* full payment within thirty (30) days after the invoice date.

3. A service charge will be applied at the rate of 1.0 percent per month (or the maximum rate allowable by law) to delinquent accounts. Payment thereafter will be applied first to accrued interest and then to the principal unpaid by the Client.

4. EXPERT TESTIMONY. For situations requiring expert testimony, services will be provided at 1.5 times the standard hourly rates listed, with a minimum of four hours. Time spent in preparation and review of testimony will be charged at standard rates.